

Claims

1. Method for preparing a starch product, wherein
 - an aqueous starch mixture is provided, the starch containing amylose in a
 - 5 content of less than 50 wt. % based on the dry substance; and
 - the starch mixture is heated to a temperature of at least 170 °C.
2. Method according to claim 1, wherein the starch mixture is heated to a temperature between 175 and 250 °C, preferably between 180 and 220 °C.
3. Method according to claim 1 or 2 wherein, after the starch mixture
- 10 has been heated, at least a substantial part of the starch is crystallised during a crystallisation step.
4. Method according to claim 3, wherein during the crystallisation step starch spherulites are formed.
5. Method according to claim 3 or 4, wherein the heated starch mixture
- 15 is cooled to a temperature in the range of 0-100 °C, preferably 0-50 °C, before, during or after the crystallisation.
6. Method according to any of the preceding claims, wherein the starch mixture is dried after being heated.
7. Method according to claim 6, wherein the starch mixture is dried by
- 20 spray drying.
8. Method according to claim 6 or 7, wherein the temperature of the starch mixture at the start of the drying is at least 170 °C, preferably 180-220 °C.
9. Method according to claim 6 or 7, wherein the starch mixture is
- 25 dried after being cooled to a temperature below 170 °C, preferably after being cooled to a temperature of 100 °C or less.

10. Method according to claim 9, wherein the heated starch mixture is cooled to a temperature in the range of 10-40 °C, then stored for at least 30 min. – optionally under motion – and thereafter dried.
11. Method according to any of the claims 6-9, wherein the starch
5 remains essentially uncrystallised until the drying is started.
12. Method according to claim 11, wherein the heated starch mixture is cooled to a set-point temperature between 20 and 220 °C, preferably between 70 and 100 °C, and essentially immediately upon reaching the set-point temperature the starch mixture is dried .
- 10 13. Method according to any of the preceding claims, wherein at least part of the process is carried out in a continuous way.
14. Method according to claim 13, wherein heating is carried out by continuous cooking, preferably in a jet cooker.
15. Method according to any of the preceding claims, wherein the pH of
15 the starch mixture before heating (as measured at 25 °C) is between 2 and 7, preferably between 4 and 6.5, more preferably between 5 and 6.
16. Method according to any of the preceding claims, wherein the water is tap water, optionally supplemented with one or more additives.
17. Method according to any of the preceding claims, wherein the starch
20 is cereal, root or tuber starch, preferably potato starch.
18. Method according to any of the preceding claims, wherein the starch is a chemically, enzymatically or physically modified starch.
19. Method according to any of the preceding claims, wherein the amylose content of the starch is between 5 and 45 wt. % based upon the dry
25 substance, preferably between 10 and 40 wt. % based upon the dry substance, more preferably 15-30 wt % based upon the dry substance.
20. Starch product, obtainable by a method according to any of the preceding claims.
21. Starch product according to claim 20, wherein the starch product is
30 a gellable starch powder, a spreadable gel or a rubber-like gel.

22. Starch product in the form of a spreadable thermoreversible gel, comprising starch spherulites.
23. Starch product according to any of the claims 20-22, which is gellable in water at 20 °C.
- 5 24. Starch product according to any of the claims 20-23, wherein the starch has a weight average molecular weight as determinable by SEC-MALLS-RI in the range of 10 000 – 25.10⁶ g/mol, preferably 50 000 – 20.10⁶ g/mol, more preferably 1.10⁵ – 10.10⁶ g/mol.
25. Foodstuff, comprising a starch product according to any of the claims
10 20-24.
26. Film, at least consisting of a starch product according to any of the claims 20-24.
27. Use of a starch product according to any of the claims 20-24 as a gelling agent, a texturising agent, a moisture barrier, a fat substitute or an
15 expansion aid.